PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference F38786WO /tge	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP 03/13177	International filing date *(day/month/year)* 24.11.2003	Priority date *(day/month/year)* 22.11.2002
International Patent Classification (IPC) or both national classification and IPC B60T7/10		
Applicant FICO CABLES S.A. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
22.06.2004	28.12.2004
Name and mailing address of the international preliminary examining authority: European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Authorized Officer Ferro Pozo, J Telephone No. +49 30 25901-539

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP 03/13177

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-15 as originally filed

Claims, Numbers

1-20 received on 22.06.2004 with letter of 22.06.2004

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-20
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-20
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-20
	No:	Claims	

2. Citations and explanations

   see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following document:
D1: US-A-4 989 474 (CICOTTE EDMOND B ET AL) 5 February 1991 (1991-02-05)

2 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document) a ratio regulating mechanism for a manually actuated action lever, which comprises:

a. a mounting (10);
b. an action lever arm (14);
c. a rotational shaft (32) for rotably mounting of the action lever arm (22, 14f) at the mounting (10), wherein the rotational shaft (32) is relocatably mounted at the action lever arm (14) and relocatably mounted at the mounting (10);
d. a first adjustment means (14a) for the relocation of the rotational shaft (32) in relation to the action lever arm (14); and
e. a second adjustment means (10c) for the relocation of the rotational shaft (32) in relation to the mounting (10),
f. the action lever arm (14) comprising an elongated guide (14a) and the mounting (10) comprising an elongated guide (10c) for the relocatable mounting of the rotational shaft (32),

2.1 The subject-matter of claim 1 differs from D1 in that the ratio regulating mechanism of the application (the references in parentheses applying to the application):

g. the first adjustment means (19, 21) comprises an arm shaft (19), which is supported in the action lever arm (20), and first cam plates (21), which are connected to the arm shaft (19) and the rotational shaft (15), so that a relocation of the rotational shaft (15) in relation to the action lever arm (20) results from an adjustment-rotation of the first cam plates (21), and
h. the second adjustment means (22, 23) comprises a support pin (23), which is connected to the mounting (2), and second cam plates (22), which are connected to the support pin (23) and the rotational shaft (15), so that a relocation of the rotational shaft (15) in relation to the mounting) results from an adjustment-rotation of the second cam plates (22).

2.2 The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

2.3 The problem to be solved by the present invention may be regarded as providing a regular actuation lever, wherein the lever ratio can be adjusted to the user, providing the same lever ratio for all users after geometric adjustment of the actuation lever to users of different size.

2.4 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) because providing the technical state of the art (D1), it is not obvious for the skill person to include the two adjustment means described in paragraphs g) and h) of new filed claim 1 to solve the problem above mentioned.

3 Claims 1-20 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

CLAIMS 19 and 20

4 Regarding claim 19 the feature consisting on "at least two of the pedals..." it is not clear. The reason being that there are no such a "two pedals" mentioned in the whole description. Referring to paragraph 5 of page 12 of the description, the same terminology should have been used (i.e. "...the action lever arm consists of substantially only three parts, namely a subpedal 1, a positioning element 8, and a pedal foot 4...").
This comments apply to claim 20 since it is dependent on claim 19.

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FICO CABLES, S.A.

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Patent Claims

1. Ratio regulating mechanism for a manually actuated action lever, in particular for the use in a motor vehicle, comprising:

a. a mounting (2);

b. an action lever arm (20);

c. a rotational shaft (15) for rotably mounting of the action lever arm (20) at the mounting (2), wherein the rotational shaft (15) is relocatably mounted at the action lever arm (20) and relocatably mounted at the mounting (2);

d. a first adjustment means (19, 21) for the relocation of the rotational shaft (15) in relation to the action lever arm (20); and

e. a second adjustment means (22, 23) for the relocation of the rotational shaft (15) in relation to the mounting (2),

f. the action lever arm (20) comprising an elongated guide (17) and the mounting (2) comprising an elongated guide (18) for the relocatable mounting of the rotational shaft (15),

g. wherein the first adjustment means (19, 21) comprises an arm shaft (19), which is supported in the action lever arm (20), and first cam plates (21), which are connected to the arm shaft (19) and the rotational shaft (15), so that a relocation of the rotational shaft (15) in relation to the action lever

arm (20) results from an adjustment-rotation of the first cam plates (21), and

h. wherein the second adjustment means (22, 23) comprises a support pin (23), which is connected to the mounting (2), and second cam plates (22), which are connected to the support pin (23) and the rotational shaft (15), so that a relocation of the rotational shaft (15) in relation to the mounting (2) results from an adjustment-rotation of the second cam plates (22).

2. Ratio regulating mechanism in accordance with claim 1, wherein the first adjustment means (19, 21) and the second adjustment means (22, 23) are adjustable, so that during the relocation of the rotational shaft (15) the position of the action lever arm (20) in relation to the mounting (2) is maintained.

3. Ratio regulating mechanism in accordance with one of the claims 1 or 2, wherein the relocation of the rotational shaft (15) by said first adjustment means (19, 21) occurs in an opposite direction to the relocation of the rotational shaft (15) by said second adjustment means (22, 23).

4. Ratio regulating mechanism in accordance with one of the claims 1 to 3, wherein said first adjustment means (19, 21) and said second adjustment means (22, 23) are simultaneously actuated.

5. Ratio regulating mechanism in accordance with one of the claims 1 to 4, wherein the first cam plates (21) comprise first cam slots (21a), through which the rotational shaft (15) extends, and the second cam plates (22) comprise second cam slots (22a), through which the support pin (23) extends.

6. Ratio regulating mechanism in accordance with claim 5, wherein said rotational shaft (15) is attached to said second cam plates (22) and slideably ar-

ranged through said first cam slots (21a), so that the rotational shaft (15) is functional connected to both adjustment means (19, 21, 22, 23).

7. Ratio regulating mechanism in accordance with one of the claims 5 or 6, wherein the first and the second cam slots (21a, 22a) have substantially the same shape and length.

8. Ratio regulating mechanism in accordance with one of the claims 1 – 7, wherein the first and the second cam plates (21, 22) are rotated by the same rotation angle during adjustment of the rotational shaft (15).

9. Ratio regulating mechanism in accordance with one of the claims 1 - 8, wherein the first cam plates (21) and/or the second cam plates (22) are driven by means of an electric motor.

10. Ratio regulating mechanism in accordance with one of the claims 1 – 8, wherein the first cam plates (21) and/or the second cam plates (22) are manually driven.

11. Ratio regulating mechanism in accordance with one of the claims 9 or 10, wherein the first cam plates (21) and/or the second cam plates (22) are driven either by means of a toothed wheel gearing, a spindle gearing, a cam gearing, a chain drive, a belt drive, or a V-belt drive, a flexible shaft or by a combination of said gearings.

12. Ratio regulating mechanism in accordance with one of the claims 1 - 11, wherein the ratio regulating mechanism is part of a hand-brake lever.

13. Ratio regulating mechanism in accordance with one of the claims 1 - 11, wherein the ratio regulating mechanism is part of a pedal, preferably of a pedal for a motor vehicle.

14. Ratio regulating mechanism in accordance with claim 13, wherein the pedal is a pedal which can be adjusted in its dimensions to the user and wherein the action lever can be adjusted, so that the actuation force and the actuation path of the pedal remain constant despite the geometrical adjustment to the user.

15. Ratio regulating mechanism in accordance with claim 13, wherein the pedal is a pedal which can be adjusted in its dimensions to the user and wherein the action lever can be adjusted, so that the actuation force can be adjusted to the user.

16. Ratio regulating mechanism in accordance with one of the claims 14 or 15, wherein the rotational shaft (15) is independent from a geometrical adjustment means of the pedal.

17. Ratio regulating mechanism in accordance with one of the claims 13 - 16, wherein a common actuation means is used for geometrical adjustment of the pedal to the user and for actuation of the first (19, 21) and second adjustment means (22, 23).

18. Ratio regulating mechanism in accordance with claim 13 - 16, wherein at least two actuation means are used for geometrical adjustment of the pedal to the user and for actuation of the first (19, 21) and second adjustment means (22, 23), wherein the actuation means are controlled by a control electronics.

19. Ratio regulating mechanism in accordance with one of the claims 13 - 18, wherein at least two of the pedals are arranged to form a pedal unit, wherein the first (19, 21) and second adjustment means (22, 23) of the action levers can be jointly driven for joint adjustment.

20. Ratio regulating mechanism in accordance with claim 19, wherein only a single, common actuation means is used for actuation of the first (19, 21) and second adjustment means (22, 23).

5